

**University Corporation for Atmospheric Research  
National Center for Atmospheric Research**

**Oral History Project**

**Interview of: Vincent J. Schaefer  
7 May 1993**

**Interviewer: Earl Droessler**

Droessler: This is an interview with Dr. Vincent J. Schaefer. It is May the 7<sup>th</sup> 1993 and we are having an interview in his home in Schenectady, New York, and I am Earl Droessler.

Vince, I want to thank you very much for having me here today and inviting me up to Schenectady to talk with you. I would like to begin our conversation by asking you to recall your early days with UCAR and NCAR. When was it that you became involved in this activity?

Schaefer: It was about the same time that we began to hear something about the plans to develop a national center for consideration of the problems that were rising in relation to the atmosphere. I received a letter from Tom Malone who I believe at the time had just recently joined the Traveler's Insurance Company at Hartford and he invited a group of us, perhaps 10 or 15 in number, to a retreat on the side of Talkin Mountain just west of Hartford, Connecticut. At the time he described the things he was hoping to do, which was to get a cross section of the thinking of some of the meteorologists. We were all friends as was the case in that period of time in the late 50's, knew each other and were very much interested in seeing something happen. We started with a talk by Tom Malone as to what he was hoping our group could come up with, which was basically a plan of action to put together a national center that would be concerned with problems, pretty much basic problems related to the atmosphere. We got off to a very good start, many ideas were advanced and after several hours it became obvious to me that there were some very divergent ideas in the community as to the way things could go or might go. It turned out that Bernie Vonnegut and I were sort of in the minority. We had in mind something like the Institute for Advanced Study in Princeton and felt that an effective center of the sort that we thought about should be a region where nobody was there permanently except a basic staff. Our thoughts were articulated but it became pretty obvious to me that they weren't being listened to very carefully.

Droessler: If you and Bernie were in the minority, how many were in the majority? About how many people were there?

Schaefer: 10 or 12 or 13, something like that. I think there are about 15 all together.

Droessler: Do you remember some of the other folks who were there?

Schaefer: I can remember Roscoe Braham but my memory fails me as to the details but they were mostly the younger, very active research type people in the atmospheric region.

Droessler: Of course that was 32 years ago and you were one of the younger fellows in the field too.

Schaefer: That's right. We were among friends and while we differed in our basic philosophy there was no hard feelings or anything. We just had a give and take, which is what I know that Tom was after.

Droessler: There was no question about your coming together on a consensus that there should be a National Center for Atmospheric Research.

Schaefer: Not any question at all. It was just basically the philosophy that should govern the way they operated.

Droessler: This was, of course, first proposed in the Berkner report, which was issued in January of 1958 so this must have been sometime in 1958 that you were called to Hartford.

Schaefer: Probably. I would think so.

Droessler: What eventuated then? You had discussion on many sides.

Schaefer: I guess we spent the night or something. It's my recollection it was a several day meeting. The talk, of course, continued throughout a good portion of the night but we finally came to the conclusion that it would probably be best if we put on a minority report because we had two entirely different philosophies, which we felt was important. So, Bernie and I, I can't remember whether we did it right away or whether we did it after a period of a few weeks, but we did come up with a report. I don't have a copy of that and I have no idea where it is or anything.

Droessler: I remember that there was a good deal of time pressure on you folks who were meeting in Hartford because the National Science Foundation wanted to have a prospectus on what a national center might look like; some sort of a framework so that this framework could be taken to the

National Science Board at its next meeting and hopefully some finances would eventuate so that the idea of a national center could move forward. What happened after you left Hartford?

Schaefer: Actually before we left a discussion was carried out as to who should head such a group. The name that seemed to be favored by almost everybody was Jim van Allen at University of Iowa.

Droessler: I see. He was the...

Schaefer: He was the first person that we were thinking about to head up such a group.

Droessler: Sort of be the director of the new center. Did you all write down your thoughts? What happened then when you moved off from Hartford?

Schaefer: It's my recollection that we put together a basic outline of our thinking because it probably was used in putting together the plans that were then forwarded to use for criticism. But, I'm not sure that the ideas that Bernie and I had ever surfaced prominently because we were very much in the minority.

Droessler: On the other hand I remember back in those days when the "Blue Book" [**Preliminary Plans for a National Institute for Atmospheric Research—ed.**] came out, which was the eventual product of the work of your group, there was an important theme running throughout the book that NCAR should have the very best of the scientists up that could be attracted to such a center.

Schaefer: I'm pleased to hear that.

Droessler: So, that in part was what I understand you and Bernie were arguing for. So, the Blue Book then was published in February 1959, which is really very fast work. It's just a year from the release of the Berkner report so you folks under Tom Malone are certainly to be commended.

Schaefer: It was a very intensive operation. Tom ran a tight ship you might say and we didn't waste any time.

Droessler: After the Blue Book was published and the National Science Foundation provided some funds to start up the UCAR Corporation and the national center idea, what do you recall about those days and the work at NCAR?

Schaefer: Let me precede by indicating my relationship with Walt Roberts who eventually became the first director because Jim van Allen turned down the invitation to become the director. Everybody seemed to be quite

pleased with the idea that Walt Roberts would be a likely candidate. When I was director of research of the \_\_\_\_\_ Foundation, one of the first groups that we made contact with was Walt Roberts when he was director of the High Altitude Observatory. I met with him several times, probably four or five times, to discuss his ideas on basic studies in the atmosphere that might be worth considering. He at the time was very much interested in solar-terrestrial relationships. So, we provided him with some funds to make a study with Norm MacDonald as the primary researcher. That was before Walt was involved with the idea of being director of NCAR. I remember the second or third time I met with him, I guess it was at the University of Colorado when Sputnik had been launched, I think that was then '55 or '57, I have forgotten which. But anyhow, he had recorded the message that was given out as the satellite went overhead and he was very excited about it. I was of course very much impressed too. It turned out that almost every time he had good news I was visiting him so he sort of almost thought that it was something about me that was good fortune for him. We had several very interesting sessions. The work that Norm MacDonald and Walter were involved in the solar-terrestrial relationships seemed to prosper pretty well and we came up with a number of ideas, I'm not sure any of them paid off but we related some of our findings to the polar vortex and things of that sort.

Droessler: So, you were very pleased then when Walter was named the first director of NCAR.

Schaefer: I was very pleased.

Droessler: Did you visit with him then during the early days of NCAR and bring him some more good fortune?

Schaefer: Yes. I'm not sure how much good fortune then came but we always had a good time.

Droessler: He was really quite a magnificent figure.

Schaefer: He was.

Droessler: Well that covers that very early part of the NCAR development. What was your continuing interest in NCAR as it began to prosper?

Schaefer: I had a number of friends who were taken on the staff of NCAR and I visited them and discussed research activities as part of director of research of the \_\_\_\_\_ Foundation. I was director of research from 1952 to 1958 and then still had a relationship for several years afterward.

Droessler: So, you kept a close eye on NCAR activities.

Schaefer: Yes, I was very much interested in pretty much friendly visits rather than very much any relationship with research activities. I don't think we ever, except for Norm MacDonald who was actually with the high altitude observatory, I don't think I ever became directly involved with supporting any of the research things they were doing. I finished with \_\_\_\_\_ in '58, which was before NCAR was involved. So, we missed each other by several years because after that period I was involved with other things and finally with the state university.

Droessler: But as one of the senior contributors in the field of the atmospheric sciences you kept a watchful eye on NCAR, its personnel and its research programs just like all of us did at that time because it was our great experiment.

Schaefer: Yes, it was. The building of NCAR and the choice of the architect and all of that relationship was very much of interest to me. I was frequently in Boulder and at that time the only place you could have a room was the Boulderado Hotel, there was nothing else, very much of a sleepy town.

I visited NCAR probably almost once a year at least over the following 10-15 years after it was formed and was rather disturbed to see the direction in which it was going because to me it seemed to be just like another research institute and wasn't the kind of high level thought-provoking program that we had envisioned at the beginning. So, in 1976 I wrote a letter to the director of NCAR on November 3<sup>rd</sup> 1976, which I entitled "NCAR Suggestions for Reorganization" because I felt very strongly that unless it was reorganized nothing much would happen. The thing that disturbed me was to see that the tendency was to have just another research activity funded by sort of a special fund, which didn't have to go through evaluation and were after the same money that we were as a research institute because at that time I was director of research of the Atmospheric Sciences Research Center, later to become director.

Droessler: So, NCAR and university research appeared to you to be in conflict.

Schaefer: Very much so.

Droessler: The NCAR group was looking to the same source of funds that the university researchers were and you had to have peer review for your work and they did not and also NCAR was not developing the way you thought it should. It wasn't the exciting elite research place that it should be. So what did your letter say?

Schaefer: Maybe I better just read part of it.

Droessler: OK.

Schaefer: “As one who was involved in the initial planning stages in the formative period of NCAR, I have recently become increasingly apprehensive about its future. I was one of a small group assembled by Dr. Thomas Malone at a retreat on a mountainous ridge west of Hartford, Connecticut when the concept of the center was first explored. The results of that series of discussions were eventually published as the “Blue Report.” This report after several years of intensive planning led to the establishment of NCAR at Boulder, Colorado, eventually in its current form on what is now called Walt Roberts Mesa. There are a number of intermediary stages between the first exploratory meeting in Connecticut and the dedication of the building designed by I.M. Pei, which now occupies the mesa. At the dedication Dr. Philip Handler, now president of the National Academy of Sciences, called it the “cathedral of the atmospheric sciences.” I’m not sure that NCAR has yet achieved that distinction.

“Its decade of development under the leadership of Dr. Roberts was interesting but not without its problems. There are a relatively small number of universities which originally comprise the university corporation for atmospheric research has grown until it now has a membership of 45 universities offering graduate programs in the atmospheric sciences. With such a large group involved in governance it is not surprising that a diversity of opinion should develop about the proper role of NCAR. Its administration and its scientists should occupy toward advancing knowledge in the field of the atmospheric sciences. This has become particularly aggravated as budgets and staff increase and competition for research funds on the local, original and national levels become more intense. It is quite possible that the present pattern of activity is the best that can be achieved under the complex problems that exist. I would like to offer an alternate plan for consideration.

“Before outlining my suggestions I should point out that I have not been involved in NCAR’s activities since its early formative years except as an interested outside observer. I have had a number of friends who have been involved with NCAR, scientists as well as administrators and they have been in a good position to observe some of its accomplishments and some of its failures without having personal involvement in its activities. The suggestions, which follow, are not much different from those which I advance prior to the publication of the “Blue Report” in the late 50’s. They are temperate however by personal experience as director of the academic research organization and an observation of the problems and processes of such groups. I also have an acute awareness of the problems confronting the scientific and academic community, which have intensified during the past decade.

“The following suggestions would probably require a nearly complete reorganization of NCAR’s activities and therefore might not be at all tenable, practical or acceptable. I do think quite sincerely that if adopted the results would come closer to achieving their role and visage by a number of its founders and an increasing number of individuals concerned with the development of a buyable future for the national center.

“A basic theme of my proposal is that it would stress change rather than personal stability and tenure. It would require a small semi-permanent scientific staff and probably a fairly stable group of service personnel involved with administration, computers, flight operations, instrument making, library, editorial staff, publications and public relations. It would require active involvement and participation in its primary activities with all of its member institutions. If they did not participate they would forfeit membership in UCAR. Each member of UCAR would be required to provide on an annual basis two of the best members of their respective faculties; one of them of senior stature, a senior fellow, the other to be selected from the best of the younger staff, a junior fellow. Support for such individuals would be shared by each UCAR member as with sabbatical leave and NCAR. Each UCAR institution would be assigned two offices at the Boulder facility available for the exclusive use of their respective institutions. If after two years a UCAR institutional member had not utilized their assigned space at Boulder they would be queried and if the offices were not used during the third year their space would be reassigned.

“In addition to the senior and junior NCAR fellows provided by UCAR institutional members there would be a carefully selected group of distinguished scholars, NCAR foreign fellows, selected from other countries. Their expenses and salaries would be paid by NCAR or UCAR. They would be appointed for one year with appointment renewable for not more than one additional year.

“One of the major assignments which would be given to each senior fellow and foreign scholar would be to present a series of seminars during their 12-month sojourn at NCAR. They would be encouraged to take with them to Boulder at least two but not more than five complete sets of their publications. There would be hope that the seminars presented at NCAR during their year as residents at Boulder would represent a summary of their life’s work on the atmospheric and related sciences. Such lectures would be taped and edited by NCAR editorial personnel and then assembled as a monograph to be filed in the NCAR library along with their publications. These would be bound with one set for their personal retention the other to become a part of the NCAR library. If possible it might be desirable that as many as five sets of these compilations be prepared, two to be retained at NCAR, three to be presented to the

principal. Thus that individual could have a personal set, a set for his department and a set for his institutional library. The same procedure would be followed for the foreign scholars.

“Seminars presented by senior fellows and foreign scholars would be scheduled in such a manor that junior fellows would form the prime audience. The seminars would be publicized among all UCAR members and arranged in such a manor that the main theme of an individual lecture would be covered within a week or ten days. Thus if there were 45 senior fellows all of their seminars could be presented within the year of their sojourn at NCAR. It would be an ideal arrangement once established if the seminar of an individual could be scheduled to occur after they had been at NCAR for 3-6 months. This also suggests that in the institute initiation of the new program the number of new appointees coming to Boulder could be planned so that about ten new senior fellows arrived during each quarter. This would present an equally managed startup and would eliminate profound changes each year. In this respect it might be logical to have a junior fellow arrive three months before or after the arrival of a senior fellow. The foreign fellows might similarly be brought in 2 or 3 at a time.

“As envisioned at this time the facilities personnel could consist primarily of outstanding technicians who would be carefully selected and appointed on a two year plus three year contract with unlimited numbers of renewals up to age 65. A small hardcore of professional scientists would also be recruited for similar terms to provide a degree of continuity and expertise. They would be provided with staffs of undergraduate and graduate students with limited term post docs available. This student group could be recruited as a part of their professional development training with limited appointment of not more than three years. Such appointments would be based on certain formula worked out by UCAR so that all members have equal opportunity to nominate candidates and with a certain quota available with all requirements of testing. It would be highly desirable to have the senior and junior fellows as well as foreign scholars housed on the mesa. Two residence halls, a commons and a group of small cottages could be built west of the present buildings. The present cafeteria would adequately serve the needs for those needing meals.

“The purpose of this memorandum is to suggest an entirely new approach to the activities of the National Center for Atmospheric Research. I believe it has the elements needed to serve the American public and the scientific community. Signed: Vincent J Schaefer, November 3<sup>rd</sup>, 1976.”

It hasn't emerged...

Droessler: Thank you very much.

Schaefer: ...as an interesting place to go.

Droessler: It has not?

Schaefer: No.

Droessler: So, it's been 17 years now since you wrote that letter and you don't see NCAR emerging in the way that it really ought to as a premiere center in the world.

Schaefer: Not at all. What I do see [are] friends of mine who are on the staff who have been there most of their life and that's not good because they occupy a space that some younger energetic person could easily fit into for a few years but not for a long time.

Droessler: Do you think that some of this is related to the continuing competition between the university departments of meteorology and atmospheric sciences and NCAR?

Schaefer: Probably. It's really fantastic the kind of parochialism that exists between departments and research centers. We see this today at ASRC.

Droessler: Because in the last 20 years we have had the emergence of some really strong departments of meteorology. You see it in University of Washington, Colorado State University, Florida State University and Penn State too.

Schaefer: The best of all of that should be at NCAR for a brief time.

Droessler: Yes. I left out the University of Wisconsin.

Schaefer: Sure, the same thing.

Droessler: These are certainly a half a dozen of the very best departments and they have siphoned off all the really good young people and turned them into outstanding professors and researchers and not shared them with the national center in the way that you suggest

Schaefer: Right.

Droessler: So the national center has not really, into words of the National Academy of Sciences president, has not become the cathedral of the atmospheric sciences; it is really just another parish church.

Schaefer: You'd be interested in the letter I got from...

Droessler: Vince, some 30 years plus now has passed by since NCAR was first established and I don't think either you or I feel that NCAR is going to change in the dramatic way that you have suggested. Do you see this kind of an institution developing someplace somewhere in the world where change rather than personal stability and tenure would be the principle feature of this research institution?

Schaefer: I think there is a marvelous opportunity if the right person comes along and the right situation develops. The important thing is that whatever is done should be done on a modest scale so that the organization doesn't run away with it, which I'm afraid is what happens when things get big. With ASRC I patterned the basic philosophy on the old Whitney Laboratory, which I got to know very well because I was very close to Dr. Whitney and Dr. Langmuir.

Droessler: This is the Whitney Laboratory at General Electric.

Schaefer: It was the Whitney Laboratory of General Electric. When it was small with a maximum probably of 40 or 50 top scientists with supporting staff, it was just a fantastic place, very exciting. You just couldn't wait to get there. When things began to change after it got big you just couldn't wait to get away from it. I experienced both of them, both conditions. It led me to believe very strongly in the importance of the individual, the enthusiasm, motivation and all the other things that go to make up a top notch scientist and the freedom to do what each individual feels he might do to make some important progress in science no matter what it is. That I think is an extremely important part of the picture. There are some hopeful signs. There are some young people who are just beginning to feel that they might do something on the global scale and with a modicum of encouragement and enthusiastic support I'm sure they will make a very important contribution to the problems that confront us in all parts of the world. The environmental and ecological problems that are on all sides demands that we find the right people and support them. But I think it would be a great mistake to try to make a great plan, which is something that so many people think are important in terms of how you make progress in the present conditions of the world. A small group properly motivated and properly encouraged...

Droessler: With the right leadership.

Schaefer: With the right leadership and with a modest amount of money can make a fantastic impression on the way things have to go.

Droessler: And there is one that appears on the scene?

Schaefer: There are several people. I always think back at Tom Malone and most recently \_\_\_\_\_ Ramonin. These two people are the outstanding ones that I know of at the present time of the two generations that are going to make it happen. They have the vision, they have the get up and go, they have the background experience and I really think that we're at the threshold of some very exciting times. I wish I was going to be around for the next 30 years to see it happen.

Droessler: When Walt Roberts first took over as the director of NCAR, he used to speak many times and very fervently about the importance of keeping NCAR small so that it could accomplish its work with the kind of personal, professional, imagination and dedication and just small enough so that one person, himself as director, could be acquainted with all of the people and all their work and be able to reach out and encourage them at any and all times. He spoke of this very enthusiastically and very deep in his heart for the first many years of NCAR, and this is one of your cartel points.

Schaefer: You see the other important thing about Walt Roberts, he was loved by everybody. I don't know if you have seen the book [**“Remembering Walt Roberts” ed.**] but that is the most beautiful tribute to a person that can ever be. That's the sort of thing that we have to keep back in our minds as the ultimate goal to strive for.

Droessler: When I read that book I thought I knew Walt Roberts quite well but I certainly did not. Here was a person who touched the lives of literally hundreds and hundreds of other people in very close and meaningful ways and they all benefited from having that association with Walter whether it was a brief association or an association over time. That came out in these personal stories that were told in that book. I was impressed by the ability of a man, a person, to be able to extend himself or herself that far and that enriching for humanity.

Schaefer: I had a wonderful phone call the day before yesterday of a person who lives on this road who I didn't know. A young lady from the sound of her voice, she said she was bringing greetings to me from Greg Condon. Greg was one of my NSI boys many years ago. He wanted her to pass word onto me that the influence of the NSI program, National Sciences Institute, profoundly affected his life. That was the best experience I'd had in several months, just to get a word from a boy I hadn't heard of for 25 years.

Droessler: That of course is one of the finest rewards to come to any professor.

Schaefer: You can't beat it.

Droessler: Is to have one of his students years and years later come back and say, "Look Professor Schaefer, my association with you was really the turning point of my life," which is what this young man suggests.

Schaefer: He was 13 or 14 years old when I first made contact with him.

Droessler: Of course very gratifying when this happened.)

**(TAPE END)**